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TRANSLATION

A TURBOCLUTCH WITH AN OVERRUNNING DEVICE

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A TURBOCLUTCH WITH AN OVERRUNNING DEVICE

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The overrunning clutches used in transmissions to automatically disengage turboclutches when maximum speed is attained increase the axial dimensions and weight of the transmissions.

The proposed device eliminates these disadvantages. For the purpose of decreasing the weight and axial dimensions of the clutch, the vanes of its pump wheel are hinged to the hub on trunnions which interact with springs. The vanes are sickle-shaped for the purpose of arranging them around the hub when the clutch is disengaged.

A diagram of the turboclutch with the overrunning device built into it appears in the drawing.

This device allows us to match the characteristics of the starting motor with the requirements of the rotating gas turbine.

Hydroclutch casing 1 consists of two rigidly connected cup-shaped halves 2 and 3. Cup-shaped half 2 carries flat radial vanes 4 and is enclosed by a cup-shaped half on the pump-wheel side. Vanes 5 of pump wheel 6 are sickle-shaped and hinged to the hub of the pump wheel with the aid of two trunnions 7.

Fastened to one of the trunnions 7 of pump wheel 6 are springs 8 which tend to turn vanes 4 of pump wheel 6 in a direction opposite to that of the fluid flow.

When wheel 6 is stationary, pump vanes 4, which are sickle-shaped, are folded around the hub of the pump wheel under the action of springs 8.

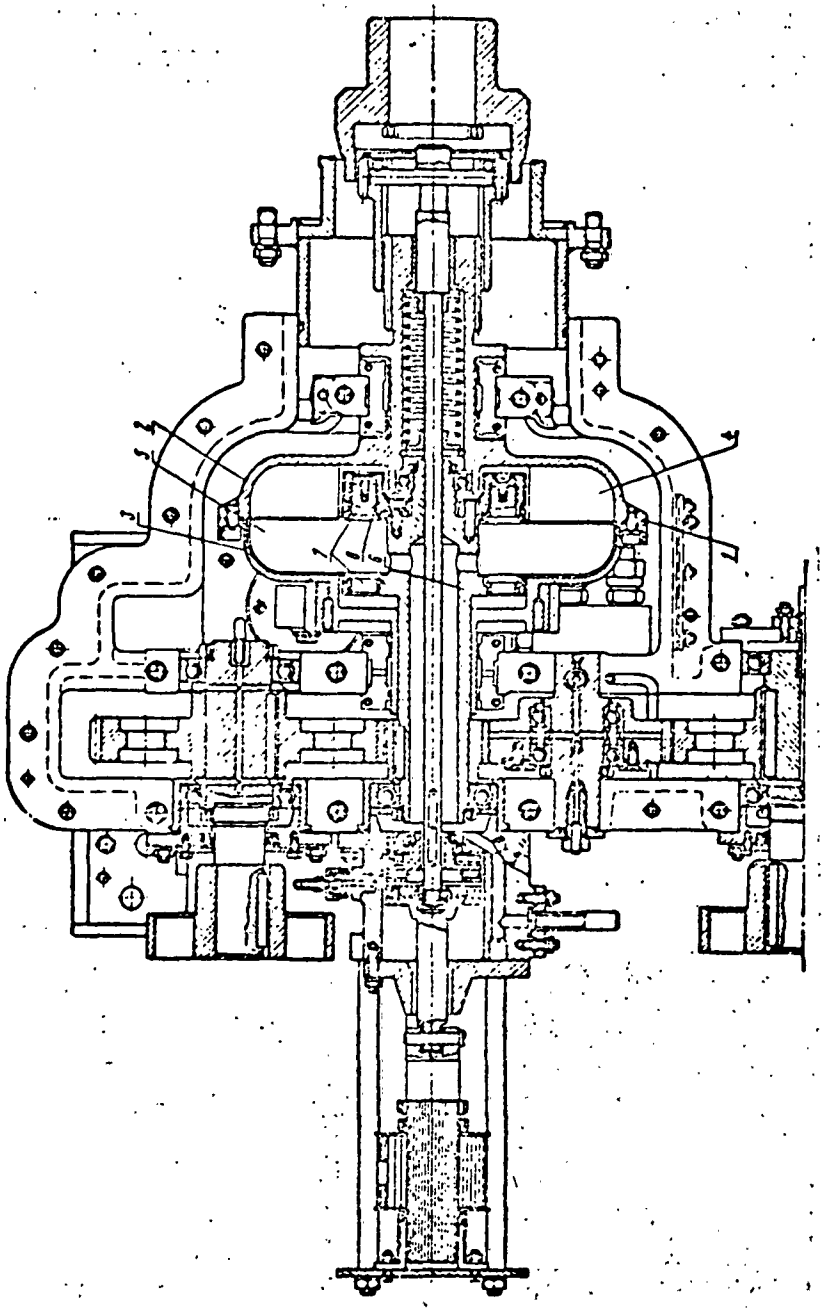
When the pump wheel is in rotation, vanes 5 overcome the attraction of the springs and open out under the action of the fluid-flow forces and centrifugal forces. With the vanes in this position the hydroclutch transmits a torque from pump wheel B to casing 1.

When the speed of turbine cup-shaped half 2 exceeds the speed of revolution of the pump wheel the fluid torque changes direction, and the fluid flow closes the vanes. In this case the clutch is disengaged.

Object of Invention

1. A turboclutch with an overrunning device differing in that, for the purpose of decreasing the weight and axial dimensions of the clutch, the vanes of its pump wheel are hinged to the hub on trunnions which interact with springs which tend to turn the vanes in a direction opposite to that of the flow.

2. The turboclutch in paragraph 1 differing in that, for the purpose of arranging the vanes around the hub when the clutch is disengaged, the vanes are sickle-shaped.



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